Navajo Abandoned Uranium Mine

Site Screen Report

This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits, pits and waste piles. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands that may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.

The purpose of the form is to ascertain the status and location of the identified AUM site, and record all immediate site information associated with the mine site. Decisions and recommendations on what additional steps are needed will be provided on a separate document.

Barton and BegayAUM Site

Navajo AUM Northern Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

12767.063.496.1111

March 2010

Part I Site Identification, Location and Status

Site Names and ID numbers as applicable

Mine ID: 47, 443

Map ID: #47 – N72
#443 – N71

CERCLIS: NNN000908844

Navajo Abandoned Mine Land Reclamation Program: #47 – NA-0404
#443 – None

Local name / Aliases: Beclabito Lease; Barton, Begay, and Beyale; MP-35; Lewis Barton; B'Cla'B'to; Beclabito; BB; BBB; Carrizzo Mine

Chapter and local area: #47 – Beclabito
#443 – Beclabito

County: San Juan **State:** New Mexico

Lat/Long: #47 - 36.8019076547 N / -109.020247967 W
#443 - 36.8065511861 N / -109.031790854 W

Nearby road and highway: Indian Route 63 **Local Post Office:** Beclabito, NM

Surface Land Status: check one or more and provide ownership and contact information below

Tribal Trust Land	☒	**Public lands**	☐
Private	☐	**Tribal Fee Land**	☐
Bureau of Land Mgmt	☐	**Allotment**	☐
State	☐	**Fee land**	☐

Subsurface Mineral Rights:
The mineral rights ownership was identified as Indian.

Claim and operator information:
The mine site surface land status is classified as Tribal Trust Land. Historical documents showed the operator of the mine as Barton, Begay and Beyale in 1950, Lewis Barton in 1951, and Caylor and Neeley in 1953. No other historical ownership / lease information was identified in the EPA/AUM database.

Number of residential structures within 200 feet of mine: None

Estimated volume of mine waste onsite: None

Part II Summary of radiological readings

Mine ID # 47

Highest gamma radiation measurement:

28,360 counts per minute (cpm)

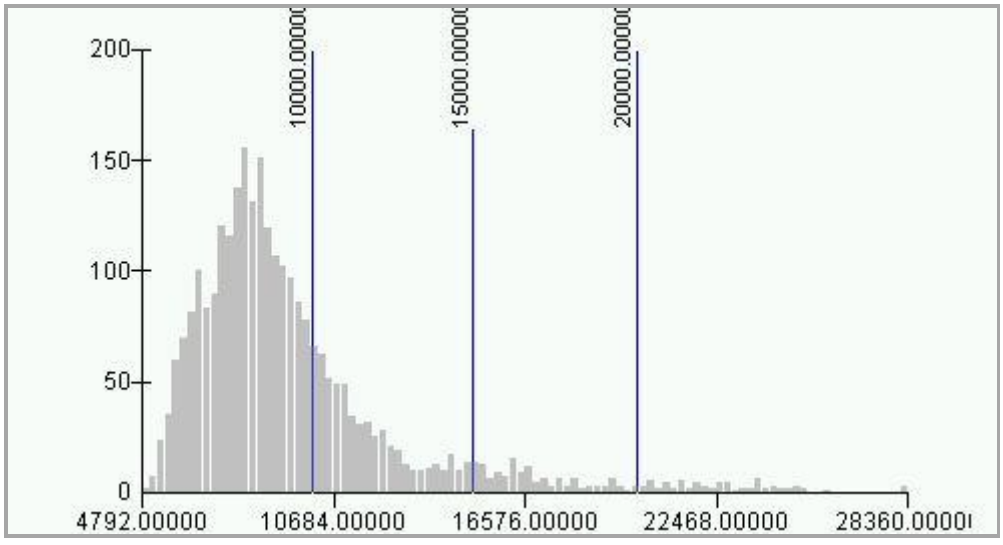
Describe any other radiological measurements:

A total of 2,732 gamma radiation measurements were collected from the mine site, ranging from 4,792 cpm to 28,360 cpm. The measurement at the reclamation cap were found at levels of approximately 20,000 to 30,000 cpm. The measurements are represented in Figures 1, 2 and 3.

Background Locations **Average background** = 6,207 cpm
#1 6,207 cpm

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	2732
Minimum:	4792.00000
Maximum:	28360.00000
Sum:	25896356.00000
Mean:	9478.90044
Median:	8580.00000
Standard Deviation:	3395.93809

Mine ID # 443

Highest gamma radiation measurement:

46,388 counts per minute (cpm)

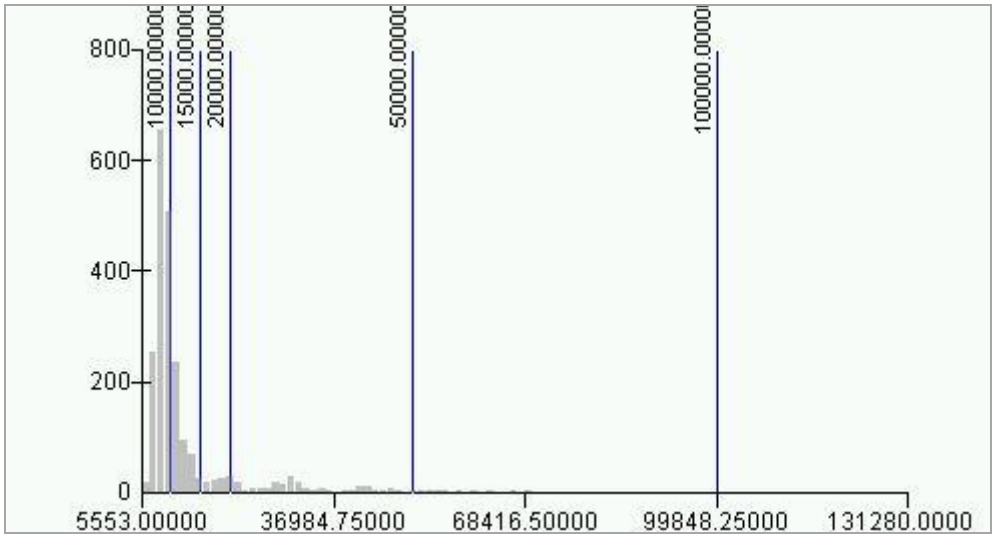
Describe any other radiological measurements:

A total of 1,684 gamma radiation measurements were collected from the mine site, ranging from 6,336 cpm to 46,388 cpm. The measurements are represented in Figures 1, 4, and 5.

Background Locations **Average background** = 8,400 cpm
#1 8,400 cpm

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	1684
Minimum:	6336.00000
Maximum:	46388.00000
Sum:	22228748.00000
Mean:	13199.96912
Median:	11548.00000
Standard Deviation:	5495.85278

Part III Status of Reclamation and Mine Waste

Mine ID #47

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : Yes **Waste Pile onsite :** No

NAMLRP Project Number: NA-0404

NAMLRP Mine features: 1 Portal, 2 Rim Strip / Pits

The following information was obtained from field observations collected during the 2009 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits
None

Waste Piles
None

Pits
None

Shafts
None

Other Debris and Mine Features
Possible reclamation cap

Mine ID #443

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : Yes **Waste Pile onsite :** No

NAMLRP Project Number: None

NAMLRP Mine features: 1 Rim Strip / Pit

The following information was obtained from field observations collected during the 2009 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits
None

Waste Piles
Large waste debris pile cascading down inaccessible cliff face, 250' x 25', with a total estimated volume of 1,157 yd^3

Pits
None

Shafts
None

Other Debris and Mine Features
None

Part IV

Site observations and Environs

Observed Structures: list number of and describe human habitation status of structures at the following distances from mine:

0 to 200 feet: None

200 feet to 0.25 mile: None

Observed Public or commercial structure: list and describe all schools, clinics, Chapter Houses, places of business and any other structure used by members of the community at the following distances:

0 to 200 feet: None

200 feet to 0.25 mile: None

Levels measured around the perimeter(s) of the identified structure(s): None

Observed water sources: list the number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine:

0 to 0.25 miles: None

0.25 miles to 4 miles: None

Sensitive environments: note and describe all sensitive environments located within visible range of the mine site, including: wetlands, endangered species, habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation.

None observed

Known Site History: include information from interviews with Chapter officials and residents. Note information on mine ownership, type of mining operation, period of operation, known amount of production, and any other information as provided.

Barton and Begay consists of 2 mine sites with a total area of 27,686.65 m^2 (#47 – 16,020.07m^2, #443 – 11,666.58 m^2). The mine was identified as being operational from 1950 to 1953. Historical documents showed the operator of the mine as Barton, Begay and Beyale in 1950, Lewis Barton in 1951, and Caylor and Neeley in 1953. While operational, the mine had a total reported production volume of 255 tons. No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

Part V Response Action Summary

Site Name(s): Barton and Begay **Chapter:** Beclabito

Decision Criteria

Is there an unreclaimed waste pile at the site? No

At what distance from the waste pile is the nearest residential structure located? None

At what distances from the waste pile are there potential drinking water sources? None

Is there a reclamation cap or sealed adit in place at the site? None

Is the cap/seal functionally intact? None

Is the cap/seal sufficiently degraded to create a concern about releases? No

At what distance from the cap/seal is the nearest domestic structure located? None

At what distance from the cap/seal is the nearest domestic drinking water source? None

Summary of emergency response factors

None

Summary hazard ranking system factors

None

Summary of reclamation factors

Possible reclamation cap at site #47

Part VI Photos

Photo 1. Site #47

Photo 2. Site #47

Photo 3. Site #47

Photo 4. Site #47 reclamation cap

Photo 5. Site #443

Photo 6. Site #443

Photo 7. Site #443

Photo 8. Site #443

Photo 9. Site #443

Photo 10. Site #443

Part VII Contacts Reports and Information

Name: Stanley Edison (928) 871-6861

Eugene Esplain (928) 871-7331

Title or official role (if any) Navajo EPA Superfund Program

Address___PO Box 2946, Window Rock, AZ 86515

Information provided Lead Regulatory Agency

Name_____

Title or official role (if any) _____

Address_____

Telephone number_____

Information provided_____

Name_____

Title or official role (if any) _____

Telephone number_____

Information provided_____

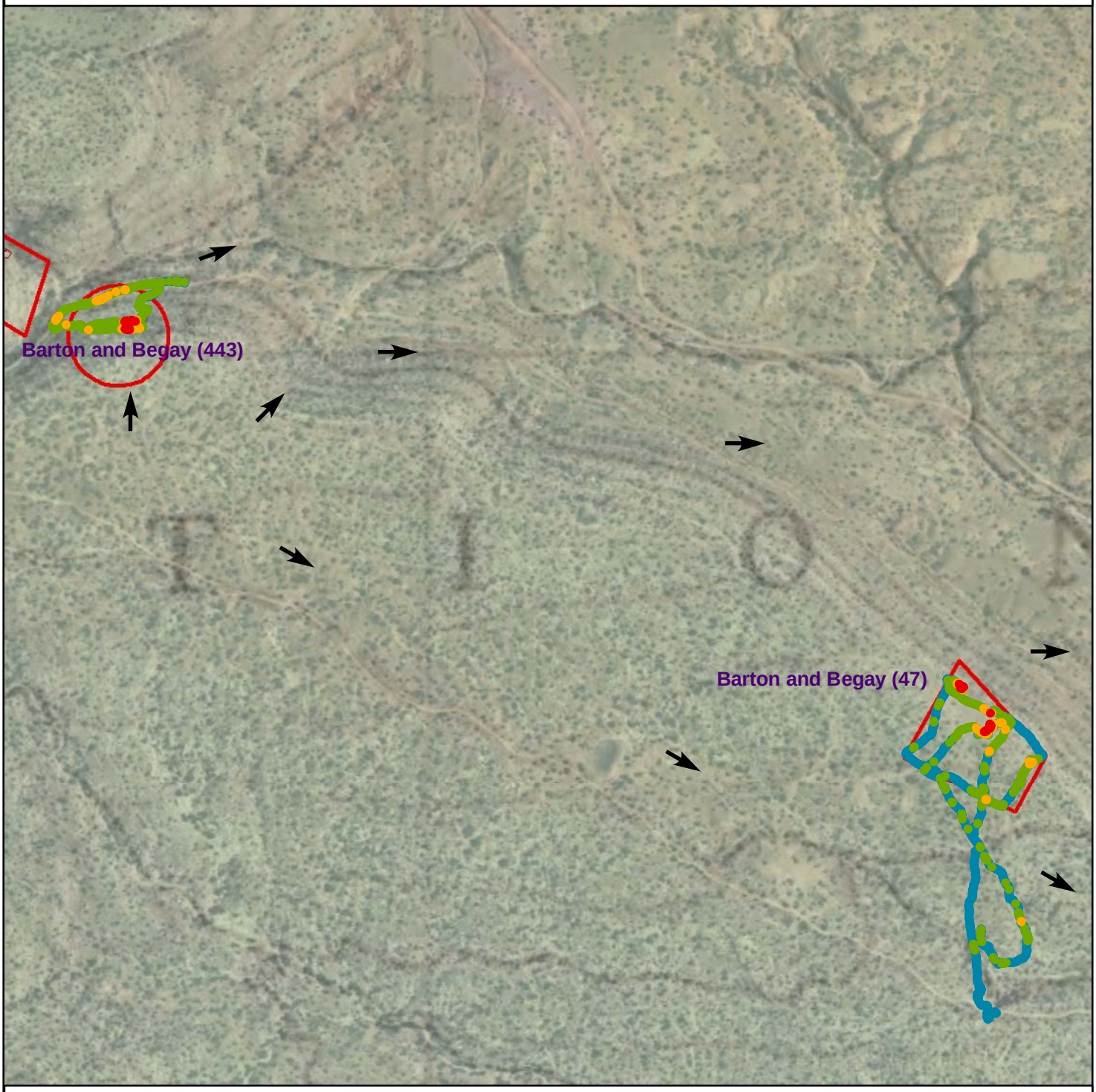
Name_____

Title or official role (if any) _____

Telephone number_____

Information provided_____

Figure 1 - Gamma Radiation Measurements
Barton and Begay Mines (47, 443)
Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

General Direction Down-Slope

Mine Claim Boundaries

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

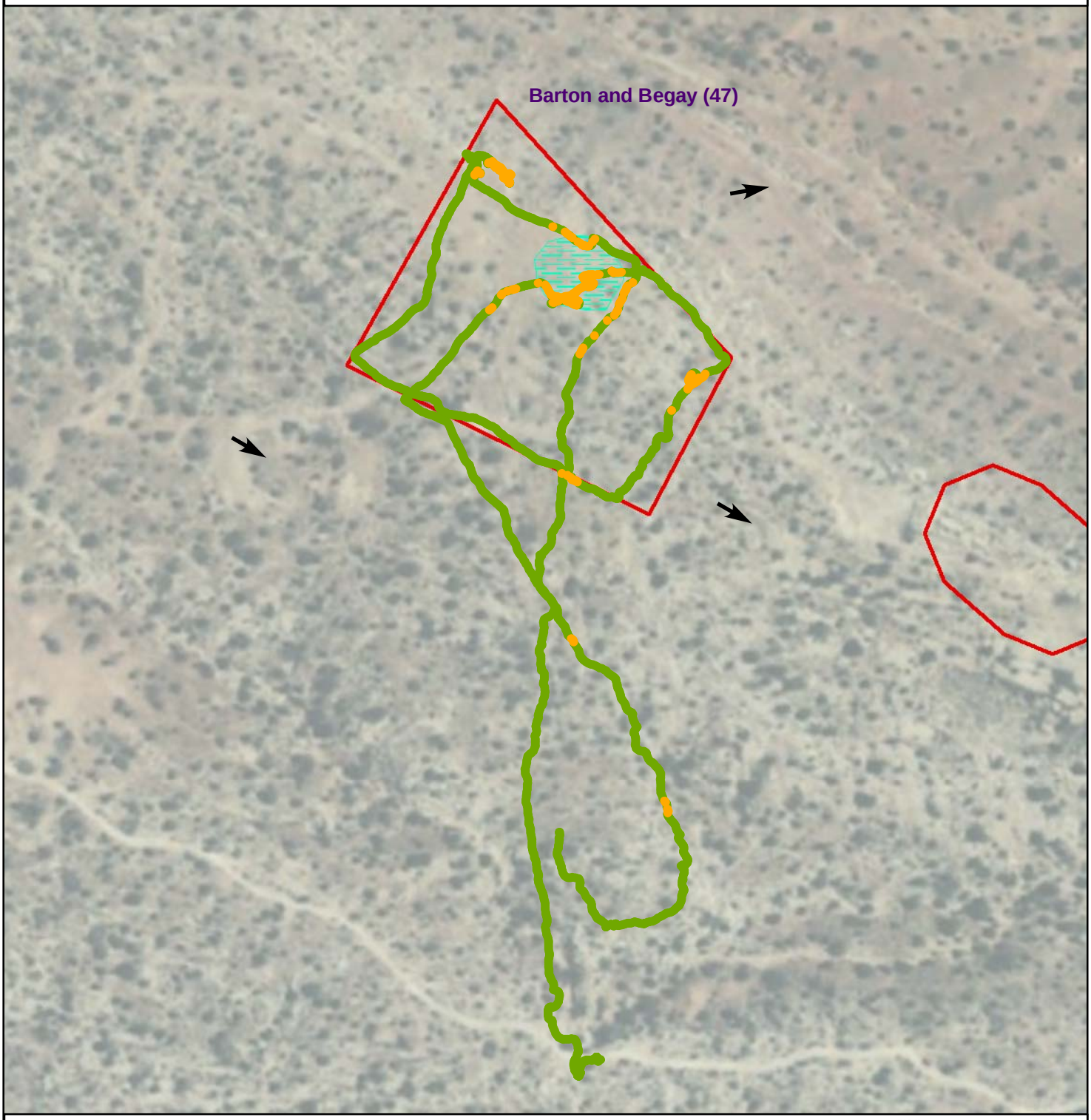
N

Feet

0 750

WESTON SOLUTIONS

Figure 2 - Gamma Radiation Measurements, Above Two Times Background
Barton and Begay (47)
Beclabito Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- < 2X Backgound
- > 2X Background

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background = 6,207 cpm

Observed Reclamation Cap

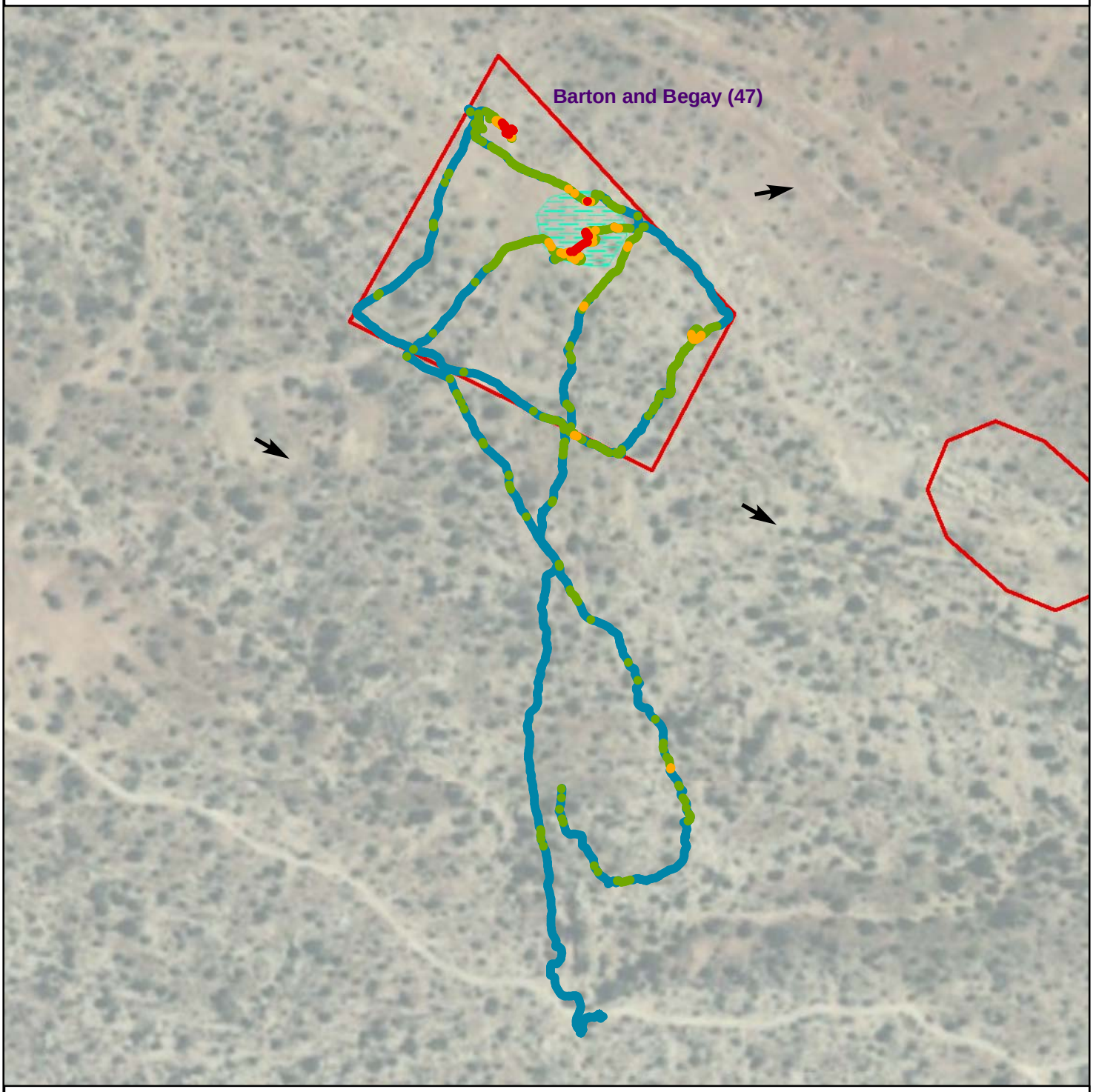
General Direction Down-Slope

Mine Claim Boundaries

N

0 — 300 **Feet**

Figure 3 - Gamma Radiation Measurements
Barton and Begay (47)
Beclabito Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

Observed Reclamation Cap

General Direction Down-Slope

Mine Claim Boundaries

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background = 6,207 cpm

N

0 — 300 Feet

WESTON SOLUTIONS

Figure 4 - Gamma Radiation Measurements, Above Two Times Background
Barton and Begay (443)
Beclabito Chapter, Navajo Nation, Arizona

Legend

Gamma Radiation Measurements

- < 2X Backgound
- > 2X Background

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background = 8,400 cpm

Inaccessible due to steep grades

General Direction Down-Slope

Mine Claim Boundaries

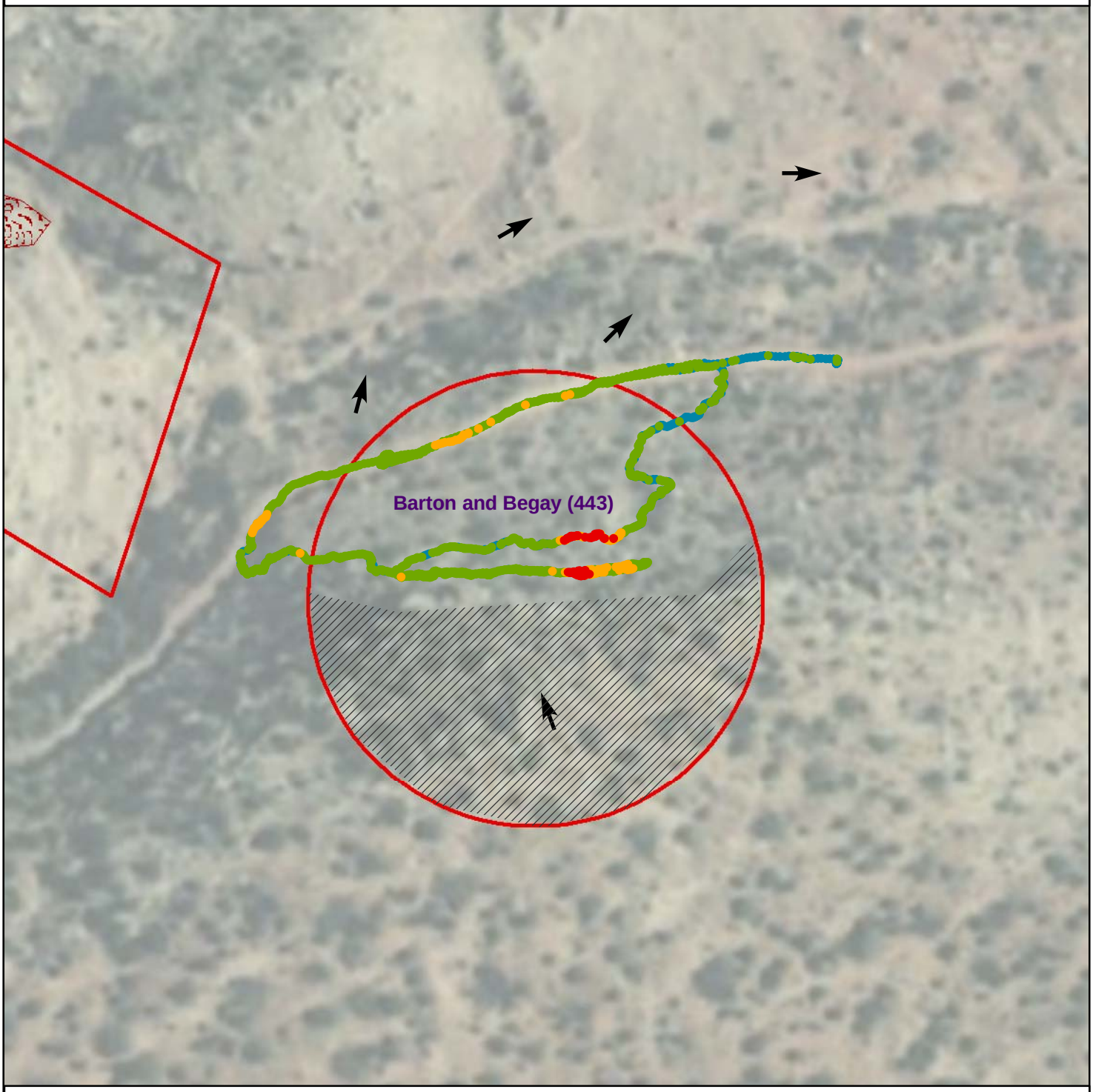
N

Feet

0 **150**

WESTON SOLUTIONS

Figure 5 - Gamma Radiation Measurements
Barton and Begay (443)
Beclabito Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

Inaccessible due to steep grades

General Direction Down-Slope

Mine Claim Boundaries

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background = 8,400 cpm

N

Feet

0 150